## Patent claims

# 1. Compounds of the formula (I)

$$\begin{array}{c|c} & G & X \\ & & & \\ & & & \\ H & & & \\ O & Z & \\ \end{array} \qquad \qquad Y \qquad \qquad (I)$$

#### 5 in which

X represents halogen,

Y represents alkyl and

Z represents C<sub>2</sub>-C<sub>6</sub>-alkyl,

A and B together with the carbon atom to which they are attached represent a saturated or unsaturated C<sub>3</sub>-C<sub>8</sub>-ring which optionally contains at least one heteroatom and which is optionally substituted by alkoxy or haloalkyl,

and.

G represents hydrogen (a) or represents one of the groups

#### in which

E represents a metal ion equivalent or an ammonium ion,

L represents oxygen or sulphur,

M represents oxygen or sulphur,

R<sup>1</sup> represents in each case optionally substituted alkyl, alkenyl, alkoxyalkyl, alkylthioalkyl or polyalkoxyalkyl or represents in each case optionally halogen-, alkyl- or alkoxy-substituted cycloalkyl or heterocyclyl or represents in each case optionally substituted phenyl, phenylalkyl, phenylalkenyl or hetaryl,

R<sup>2</sup> represents in each case optionally halogen-substituted alkyl, alkenyl, alkoxyalkyl or polyalkoxyalkyl or represents in each case optionally substituted cycloalkyl, phenyl or benzyl,

R<sup>3</sup>, R<sup>4</sup> and R<sup>5</sup> independently of one another represent in each case optionally halogensubstituted alkyl, alkoxy, alkylamino, dialkylamino, alkylthio, alkenylthio or cycloalkylthio or represent in each case optionally substituted phenyl, benzyl, phenoxy or phenylthio,

R<sup>6</sup> and R<sup>7</sup> independently of one another represent hydrogen, represent in each case optionally halogen-substituted alkyl, cycloalkyl, alkenyl, alkoxy, alkoxyalkyl, represent in each case optionally substituted phenyl or benzyl, or together with the N atom to which they are attached form an optionally substituted cycle which optionally contains oxygen or sulphur.

- 2. Compounds of the formula (I) according to Claim 1, in which
  - X represents chlorine or bromine,
  - Y represents C<sub>1</sub>-C<sub>3</sub>-alkyl,
- 20 Z represents ethyl, n-propyl or n-butyl,
  - A, B and the carbon atom to which they are attached represent saturated C<sub>3</sub>-C<sub>8</sub>-cycloalkyl in which optionally one methylene group is replaced by oxygen or sulphur and which is optionally substituted by C<sub>1</sub>-C<sub>4</sub>-haloalkyl or C<sub>1</sub>-C<sub>6</sub>-alkoxy,
  - G represents hydrogen (a) or represents one of the groups

$$R^{1}$$
 (b),  $R^{2}$  (c),  $SO_{2}$   $R^{3}$  (d),  $R^{6}$   $R^{5}$  (e),  $E$  (f) or  $R^{7}$  (g)

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- E represents a metal ion equivalent or an ammonium ion,
- L represents oxygen or sulphur and
- M represents oxygen or sulphur,

oxygen and/or sulphur,

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represents C<sub>1</sub>-C<sub>20</sub>-alkyl, C<sub>2</sub>-C<sub>20</sub>-alkenyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy-C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkylthio-C<sub>1</sub>-C<sub>6</sub>-alkyl or poly-C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, each of which is optionally mono- to heptasubstituted by halogen, mono- or disubstituted by cyano, monosubstituted by COR<sup>13</sup>, C=N-OR<sup>13</sup>, CO<sub>2</sub>R<sup>13</sup> or CON R<sup>13</sup>, or represents C<sub>3</sub>-C<sub>8</sub>-cycloalkyl which is optionally mono- to trisubstituted by halogen, C<sub>1</sub>-C<sub>4</sub>-alkyl or C<sub>1</sub>-C<sub>4</sub>-alkoxy and in which optionally one or two not directly adjacent methylene groups are replaced by

represents phenyl, phenyl-C<sub>1</sub>-C<sub>2</sub>-alkyl or phenyl-C<sub>1</sub>-C<sub>2</sub>-alkenyl, each of which is optionally mono- to trisubstituted by halogen, cyano, nitro, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkylsulphinyl or C<sub>1</sub>-C<sub>6</sub>-alkylsulphonyl,

represents 5- or 6-membered hetaryl which is optionally mono- or disubstituted by halogen or C<sub>1</sub>-C<sub>6</sub>-alkyl and which contains one or two heteroatoms from the group consisting of oxygen, sulphur and nitrogen,

R<sup>2</sup> represents C<sub>1</sub>-C<sub>20</sub>-alkyl, C<sub>2</sub>-C<sub>20</sub>-alkenyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy-C<sub>2</sub>-C<sub>6</sub>-alkyl or poly-C<sub>1</sub>-C<sub>6</sub>-alkoxy-C<sub>2</sub>-C<sub>6</sub>-alkyl, each of which is optionally mono- to trisubstituted by halogen,

represents  $C_3$ - $C_8$ -cycloalkyl which is optionally mono- or disubstituted by halogen,  $C_1$ - $C_6$ -alkyl or  $C_1$ - $C_6$ -alkoxy or

represents phenyl or benzyl, each of which is optionally mono- to trisubstituted by halogen, cyano, nitro,  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkoxy,  $C_1$ - $C_6$ -haloalkyl or  $C_1$ - $C_6$ -haloalkoxy,

R<sup>3</sup> represents C<sub>1</sub>-C<sub>8</sub>-alkyl which is optionally mono- or polysubstituted by halogen or represents phenyl or benzyl, each of which is optionally mono- or disubstituted by halogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkoxy, cyano or nitro,

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R<sup>4</sup> and R<sup>5</sup> independently of one another represent C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>1</sub>-C<sub>8</sub>-alkoxy, C<sub>1</sub>-C<sub>8</sub>-alkyl-amino, di-(C<sub>1</sub>-C<sub>8</sub>-alkyl)amino, C<sub>1</sub>-C<sub>8</sub>-alkylthio or C<sub>2</sub>-C<sub>8</sub>-alkenylthio, each of which is optionally mono- to trisubstituted by halogen, or represent phenyl, phenoxy or phenylthio, each of which is optionally mono- to trisubstituted by halogen, nitro, cyano, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-haloalkoxy, C<sub>1</sub>-C<sub>4</sub>-alkylthio, C<sub>1</sub>-C<sub>4</sub>-haloalkyl,

R<sup>6</sup> and R<sup>7</sup> independently of one another represent hydrogen, represent C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, C<sub>1</sub>-C<sub>8</sub>-alkoxy, C<sub>3</sub>-C<sub>8</sub>-alkenyl or C<sub>1</sub>-C<sub>8</sub>-alkoxy-C<sub>2</sub>-C<sub>8</sub>-alkyl, each of which is optionally mono- to trisubstituted by halogen, represent phenyl or benzyl, each of which is optionally mono- to trisubstituted by halogen, C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>1</sub>-C<sub>8</sub>-haloalkyl or C<sub>1</sub>-C<sub>8</sub>-alkoxy, or together represent a C<sub>3</sub>-C<sub>6</sub>-alkylene radical which is optionally mono- or disubstituted by C<sub>1</sub>-C<sub>4</sub>-alkyl and in which optionally one methylene group is replaced by oxygen or sulphur,

R<sup>13</sup> represents C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-alkenyl, C<sub>3</sub>-C<sub>6</sub>-alkynyl or C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>2</sub>-C<sub>4</sub>-alkyl, each of which is optionally mono- to trisubstituted by halogen, or represents C<sub>3</sub>-C<sub>6</sub>-cycloalkyl which is optionally mono- or disubstituted by halogen, C<sub>1</sub>-C<sub>2</sub>-alkyl or C<sub>1</sub>-C<sub>2</sub>-alkoxy and in which optionally one or two not directly adjacent methylene groups are replaced by oxygen, or represents phenyl or phenyl-C<sub>1</sub>-C<sub>2</sub>-alkyl, each of which is optionally mono- or disubstituted by halogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>2</sub>-haloalkyl, C<sub>1</sub>-C<sub>2</sub>-haloalkoxy, cyano or nitro

R<sup>13</sup> represents hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl or C<sub>3</sub>-C<sub>6</sub>-alkenyl.

- 3. Compounds of the formula (I) according to Claim 1, in which
  - X represents chlorine or bromine,
  - Y represents methyl or ethyl,
- 25 Z represents ethyl or n-propyl,
  - A, B and the carbon atom to which they are attached represent saturated C<sub>3</sub>-C<sub>7</sub>-cycloalkyl in which optionally one methylene group is replaced by oxygen and which is optionally monosubstituted by C<sub>1</sub>-C<sub>2</sub>-haloalkyl or C<sub>1</sub>-C<sub>4</sub>-alkoxy,
  - G represents hydrogen (a) or represents one of the groups

E represents a metal ion equivalent or an ammonium ion,

L represents oxygen or sulphur and

M represents oxygen or sulphur,

represents C<sub>1</sub>-C<sub>10</sub>-alkyl, C<sub>2</sub>-C<sub>10</sub>-alkenyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>2</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkylthio-C<sub>1</sub>-C<sub>2</sub>-alkyl or poly-C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>1</sub>-C<sub>2</sub>-alkyl, each of which is optionally mono- to pentasubstituted by fluorine or chlorine, monosubstituted by cyano, monosubstituted by CO-R<sup>13</sup>, C=N-OR<sup>13</sup> or CO<sub>2</sub>R<sup>13</sup>, or represents C<sub>3</sub>-C<sub>6</sub>-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C<sub>1</sub>-C<sub>2</sub>-alkyl or C<sub>1</sub>-C<sub>2</sub>-alkoxy and in which optionally one or two not directly adjacent methylene groups are replaced by oxygen,

represents phenyl or benzyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, cyano, nitro, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkylthio, C<sub>1</sub>-C<sub>4</sub>-alkylsulphonyl, C<sub>1</sub>-C<sub>4</sub>-alkylsulphonyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>2</sub>-haloalkyl or C<sub>1</sub>-C<sub>2</sub>-haloalkoxy,

represents pyrazolyl, thiazolyl, pyridyl, pyrimidyl, furanyl or thienyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine or  $C_1$ - $C_2$ -alkyl,

represents C<sub>1</sub>-C<sub>10</sub>-alkyl, C<sub>2</sub>-C<sub>10</sub>-alkenyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>2</sub>-C<sub>4</sub>-alkyl or poly-C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>2</sub>-C<sub>4</sub>-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine,

represents  $C_3$ - $C_7$ -cycloalkyl which is optionally monosubstituted by  $C_1$ - $C_2$ -alkyl or  $C_1$ - $C_2$ -alkoxy, or

represents phenyl or benzyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, cyano, nitro, C<sub>1</sub>-C<sub>4</sub>-alkyl, methoxy, trifluoromethyl or trifluoromethoxy,

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 $R^2$ 

- R<sup>3</sup> represents C<sub>1</sub>-C<sub>4</sub>-alkyl which is optionally mono- to trisubstituted by fluorine or chlorine or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,
- R<sup>4</sup> and R<sup>5</sup> independently of one another each represent C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-alkylamino, di-(C<sub>1</sub>-C<sub>6</sub>-alkyl)amino, C<sub>1</sub>-C<sub>6</sub>-alkylthio or C<sub>3</sub>-C<sub>4</sub>-alkenylthio, each of which is optionally mono- to trisubstituted by fluorine or chlorine, or represent phenyl, phenoxy or phenylthio, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, nitro, cyano, C<sub>1</sub>-C<sub>3</sub>-alkoxy, trifluoromethoxy, C<sub>1</sub>-C<sub>3</sub>-alkylthio, C<sub>1</sub>-C<sub>3</sub>-alkyl or trifluoromethyl,
  - R<sup>6</sup> and R<sup>7</sup> independently of one another represent hydrogen, represent C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>3</sub>-C<sub>6</sub>-alkenyl or C<sub>1</sub>-C<sub>6</sub>-alkoxy-C<sub>2</sub>-C<sub>6</sub>-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine, represent phenyl which is optionally mono- or disubstituted by fluorine, chlorine, bromine, trifluoromethyl, C<sub>1</sub>-C<sub>4</sub>-alkyl or C<sub>1</sub>-C<sub>4</sub>-alkoxy, or together represent a C<sub>5</sub>-C<sub>6</sub>-alkylene radical which is optionally mono- or disubstituted by methyl and in which optionally one methylene group is replaced by oxygen,
  - R<sup>13</sup> represents C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>4</sub>-alkenyl, C<sub>3</sub>-C<sub>4</sub>-alkynyl or C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>2</sub>-C<sub>3</sub>-alkyl or C<sub>3</sub>-C<sub>4</sub>-cycloalkyl in which optionally one methylene group is replaced by oxygen.
- 20 4. Compounds of the formula (I) according to Claim 1 in which
  - X represents chlorine or bromine,
  - Y represents methyl,

- Z represents ethyl,
- A, B and the carbon atom to which they are attached represent saturated C<sub>6</sub>-cycloalkyl in which optionally one methylene group is replaced by oxygen and which is optionally monosubstituted by trifluoromethyl, methoxy, ethoxy, n-propoxy, isopropoxy, n-butoxy or isobutoxy,
  - G represents hydrogen (a) or represents one of the groups

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L represents oxygen and

M represents oxygen or sulphur,

represents phenyl which is optionally monosubstituted by fluorine, chlorine, bromine, cyano, nitro, methyl, ethyl, n-propyl, isopropyl, methoxy, ethoxy, methylthio, ethylthio, methylsulphinyl, ethylsulphinyl, methylsulphonyl, trifluoromethyl or trifluoromethoxy,

represents furanyl, thienyl or pyridyl, each of which is optionally monosubstituted by chlorine, bromine or methyl,

R<sup>2</sup> represents C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>2</sub>-C<sub>6</sub>-alkenyl or C<sub>1</sub>-C<sub>3</sub>-alkoxy-C<sub>2</sub>-C<sub>3</sub>-alkyl, cyclopentyl or cyclohexyl,

or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, cyano, nitro, methyl, methoxy, trifluoromethyl or trifluoromethoxy,

- R<sup>3</sup> represents C<sub>1</sub>-C<sub>4</sub>-alkyl which is optionally mono- to trisubstituted by fluorine or chlorine or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,
- 25 R<sup>6</sup> represents hydrogen, represents C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl or allyl, represents phenyl which is optionally monosubstituted by fluorine, chlorine, bromine, methyl, methoxy or trifluoromethyl,
  - R<sup>7</sup> represents methyl, ethyl, n-propyl, isopropyl or allyl,

R<sup>6</sup> and R<sup>7</sup> together represent a C<sub>5</sub>-C<sub>6</sub>-alkylene radical in which optionally one methylene group is replaced by oxygen.

- 5. Compounds of the formula (I) according to Claim 1 in which
  - X represents chlorine or bromine,
- 5 Y represents methyl,
  - Z represents ethyl,
  - A, B and the carbon atom to which they are attached represent saturated C<sub>6</sub>-cycloalkyl in which optionally one methylene group is replaced by oxygen and which is optionally monosubstituted by methoxy, ethoxy, n-propoxy, isopropoxy, n-butoxy or isobutoxy,
- 10 G represents hydrogen (a) or represents one of the groups

- L represents oxygen and
- M represents oxygen,
- 15 R<sup>1</sup> represents C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>2</sub>-alkoxy-C<sub>1</sub>-C<sub>2</sub>-alkyl, each of which is optionally monoto trisubstituted by fluorine or chlorine, or represents cyclopropyl,
  - R<sup>2</sup> represents C<sub>1</sub>-C<sub>8</sub>-alkyl or C<sub>2</sub>-C<sub>6</sub>-alkenyl,
  - $R^3$  represents  $C_1$ - $C_4$ -alkyl.
- 6. Process for preparing compounds of the formula (I) according to Claim 1, characterized in that, to obtain
  - (A) compounds of the formula (I-a),

A, B, X, Y and Z are as defined above,

compounds of the formula (II),

$$A \xrightarrow{CO_2R^8} B \\ X \\ H \xrightarrow{N} Q$$
 (II)

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A, B, X, Y and Z are as defined above

and

in which

R<sup>8</sup> represents alkyl,

are condensed intramolecularly in the presence of a diluent and in the presence of a base,

- (B) compounds of the formula (I-b) shown above in which A, B, R<sup>1</sup>, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, B, X, Y and Z are as defined above are reacted
  - α) with acid halides of the formula (III),

 $R^{i}$ is as defined above and represents halogen Hal or B) with carboxylic anhydrides of the formula (IV), R1-CO-O-CO-R1 5 (IV) in which  $R^1$ is as defined above, if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder, compounds of the formula (I-c) shown above in which A, B, R<sup>2</sup>, M, X, Y and Z are 10 (C) as defined above and L represents oxygen, compounds of the formula (I-a) shown above in which A, B, X, Y and Z are as defined above are in each case reacted with chloroformic esters or chloroformic thioesters of the formula (V), R<sup>2</sup>-M-CO-Cl (V) 15 in which R<sup>2</sup> and M are as defined above, if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder, compounds of the formula (I-c) shown above in which A, B, R<sup>2</sup>, M, X, Y and Z are (D) as defined above and L represents sulphur, compounds of the formula (I-a) shown 20 above in which A, B, X, Y and Z are as defined above are in each case reacted a) with chloromonothioformic esters or chlorodithioformic esters of the formula (VI) CI M-R<sup>2</sup> (VI)

M and  $R^2$  are as defined above, if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder or

B) with carbon disulphide and then with compounds of the formula (VII)

R<sup>2</sup>-Hal

(VII)

in which

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R<sup>2</sup> is as defined above and

Hal represents chlorine, bromine or iodine,

if appropriate in the presence of a diluent and if appropriate in the presence of a base,

(E) compounds of the formula (I-d) shown above in which A, B, R<sup>3</sup>, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, B, X, Y and Z are as defined above are in each case reacted

with sulphonyl chlorides of the formula (VIII)

 $R^3$ -SO<sub>2</sub>-Cl (VIII)

in which

R<sup>3</sup> is as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

20 (F) compounds of the formula (I-e) shown above in which A, B, L, R<sup>4</sup>, R<sup>5</sup>, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, B, X, Y and Z are as defined above are in each case reacted

with phosphorus compounds of the formula (IX)

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L, R4 and R5 are as defined above and

Hal represents halogen,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

(G) compounds of the formula (I-f) shown above in which A, B, E, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, B, X, Y and Z are as defined above are in each case reacted

with metal compounds or amines of the formulae (X) and (XI), respectively,

$$R^{10} \sim R^{11}$$
 $N \sim R^{11}$ 
 $R^{10} \sim R^{11}$ 

in which

Me represents a mono- or divalent metal

t represents the number 1 or 2 and

R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup> independently of one another represent hydrogen or alkyl,

if appropriate in the presence of a diluent,

- compounds of the formula (I-g) shown above in which A, B, L, R<sup>6</sup>, R<sup>7</sup>, X, Y and Z (H) are as defined above, compounds of the formula (I-a) shown above in which A, B, X, Y and Z are as defined above are in each case reacted
- 20 a) with isocyanates or isothiocyanates of the formula (XII),

$$R^6$$
-N=C=L (XII)

R<sup>6</sup> and L are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of a catalyst, or

B) with carbamoyl chlorides or thiocarbamoyl chlorides of the formula (XIII)

$$R^6$$
  $N$   $CI$   $(XIII)$ 

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in which

L, R<sup>6</sup> and R<sup>7</sup> are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder.

- 10 7. Use of compounds of the formula (I) according to Claim 1 for preparing pesticides and/or herbicides.
  - 8. Pesticides and/or herbicides, characterized in that they comprise at least one compound of the formula (I) according to Claim 1.
- Method for controlling animal pests and/or unwanted vegetation, characterized in that
   compounds of the formula (I) according to Claim 1 are allowed to act on pests and/or their habitat.
  - 10. Use of compounds of the formula (I) according to Claim 1 for controlling animal pests and/or unwanted vegetation.
- 11. Process for preparing pesticides and/or herbicides, characterized in that compounds of the formula (I) according to Claim 1 are mixed with extenders and/or surfactants.
  - 12. Compositions, comprising an effective amount of a combination of active compound comprising
    - (a') at least one substituted cyclic ketoenol of the formula (I) according to Claim 1 in which A, B, G, X, Y and Z are as defined above

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and

b') at least one crop plant compatibility-improving compound from the following group of compounds:

4-dichloroacetyl-1-oxa-4-azaspiro[4.5]decane (AD-67, MON-4660), 1dichloroacetylhexahydro-3,3,8a-trimethylpyrrolo[1,2-a]pyrimidin-6(2H)-one (dicyclonon, BAS-145138), 4-dichloroacetyl-3,4-dihydro-3-methyl-2H-1,4benzoxazine (benoxacor), 1-methylhexyl 5-chloroquinoline-8-oxyacetate (cloquintocet-mexyl - cf. also related compounds in EP-A-86750, EP-A-94349, EP-A-191736, EP-A-492366), 3-(2-chlorobenzyl)-1-(1-methyl-1-phenylethyl)urea (cumyluron), α-(cyanomethoximino)phenylacetonitrile (cyometrinil), 2,4-dichlorophenoxyacetic acid (2,4-D), 4-(2,4-dichlorophenoxy)butyric acid (2,4-DB),1-(1-methyl-1-phenylethyl)-3-(4-methylphenyl)urea (daimuron, 3,6-dichloro-2-methoxybenzoic acid S-1-methyl dymron), (dicamba). 1-phenylethyl piperidine-1-thiocarboxylate (dimepiperate), 2,2-dichloro-N-(2-oxo-2-(2-propenylamino)ethyl)-N-(2-propenyl)acetamide (DKA-24), 2,2-dichloro-N,Ndi-2-propenylacetamide (dichlormid), 4,6-dichloro-2-phenylpyrimidine (fenclorim), ethyl 1-(2,4-dichlorophenyl)-5-trichloromethyl-1H-1,2,4-triazole-3carboxylate (fenchlorazole-ethyl - cf. also related compounds in EP-A-174562 and EP-A-346620), phenylmethyl 2-chloro-4-trifluoromethylthiazole-5-carboxylate 4-chloro-N-(1,3-dioxolan-2-ylmethoxy)-α-trifluoroacetophenone (flurazole), oxime (fluxofenim), 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyloxazolidine (furilazole, MON-13900), ethyl 4,5-dihydro-5,5-diphenyl-3-isoxazolecarboxylate (isoxadifen-ethyl - cf. also related compounds in WO-A-95/07897), 1-(ethoxycarbonyl)ethyl 3,6-dichloro-2-methoxybenzoate (lactidichlor), (4-chloro-otolyloxy)acetic acid (MCPA), 2-(4-chloro-o-tolyloxy)propionic acid (mecoprop), diethyl 1-(2,4-dichorophenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5dicarboxylate (mefenpyr-diethyl - cf. also related compounds in WO-A-91/07874), 2-dichloromethyl-2-methyl-1,3-dioxolane (MG-191), 2-propenyl 1-oxa-4azaspiro[4.5]decane-4-carbodithioate (MG-838), 1,8-naphthalic anhydride, α-(1,3dioxolan-2-ylmethoximino)phenylacetonitrile (oxabetrinil), 2,2-dichloro-N-(1,3dioxolan-2-ylmethyl)-N-(2-propenyl)acetamide (PPG-1292), 3-dichloroacetyl-2,2dimethyloxazolidine (R-28725), 3-dichloroacetyl-2,2,5-trimethyloxazolidine (R-29148), 4-(4-chloro-o-tolyl)butyric acid, 4-(4-chlorophenoxy)butyric acid, diphenylmethoxyacetic acid, diphenylmethoxyacetate, ethyl methyl diphenylmethoxyacetate, methyl 1-(2-chlorophenyl)-5-phenyl-1H-pyrazole-3carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-methyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-isopropyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-

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dichlorophenyl)-5-(1,1-dimethylethyl)-1H-pyrazole-3-carboxylate, ethyl 1-(2,4dichlorophenyl)-5-phenyl-1H-pyrazole-3-carboxylate (cf. also related compounds in EP-A-269806 and EP-A-333131), ethyl 5-(2,4-dichlorobenzyl)-2-isoxazoline-3carboxylate, ethyl 5-phenyl-2-isoxazoline-3-carboxylate, ethyl 5-(4-fluorophenyl)-5-phenyl-2-isoxazoline-3-carboxylate (cf. also related compounds in WO-A-91/08202), 1,3-dimethylbut-1-yl 5-chloroquinoline-8-oxyacetate, 4-allyloxybutyl 5-chloroquinoline-8-oxyacetate, 1-allyloxyprop-2-yl 5-chloroquinoline-8oxyacetate, methyl 5-chloroquinoxaline-8-oxyacetate, ethyl 5-chloroquinoline-8allyl 5-chloroquinoxaline-8-oxyacetate, oxyacetate. 2-oxoprop-1-yl 5-chloroquinoline-8-oxyacetate, diethyl 5-chloroquinoline-8-oxymalonate, diallyl 5-chloroquinoxaline-8-oxymalonate, diethyl 5-chloroquinoline-8-oxymalonate (cf. also related compounds in EP-A-582198), 4-carboxychroman-4-ylacetic acid (AC-304415, cf. EP-A-613618), 4-chlorophenoxyacetic acid, 3,3'-dimethyl-4methoxybenzophenone, 1-bromo-4-chloromethylsulphonylbenzene, 1-[4-(N-2methoxybenzoylsulphamoyl)phenyl]-3-methylurea (also known N-(2methoxybenzoyl)-4-[(methylaminocarbonyl)amino]benzenesulphonamide), 1-[4-(N-2-methoxybenzoylsulphamoyl)phenyl]-3,3-dimethylurea, 1-[4-(N-4,5dimethylbenzoylsulphamoyl)phenyl]-3-methylurea, 1-[4-(N-naphthylsulphamoyl)phenyl]-3,3-dimethylurea, N-(2-methoxy-5-

and/or one of the following compounds, defined by general formulae, of the general formula (IIa)

methylbenzoyl)-4-(cyclopropylaminocarbonyl)benzenesulphonamide,

$$(X^1)_m$$
  $Q$  (IIa)

#### or of the general formula (IIb)

$$X^3$$
 $X^2$ 
 $A^2$ 
 $A^2$ 
 $A^2$ 
 $A^2$ 
 $A^3$ 
 $A^2$ 
(IIb)

or of the formula (IIc)

$$R^{16} \xrightarrow{0} R^{17}$$

$$R^{18}$$
(IIc)

where

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m represents the number 0, 1, 2, 3, 4 or 5,

5 A<sup>1</sup> represents one of the divalent heterocyclic groupings shown below,

n represents the number 0, 1, 2, 3, 4 or 5,

A<sup>2</sup> represents optionally C<sub>1</sub>-C<sub>4</sub>-alkyl- and/or C<sub>1</sub>-C<sub>4</sub>-alkoxy-carbonyl- and/or C<sub>1</sub>-C<sub>4</sub>-alkenyloxy-carbonyl-substituted alkanediyl having 1 or 2 carbon atoms,

R<sup>14</sup> represents hydroxyl, mercapto, amino, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-alkylthio, C<sub>1</sub>-C<sub>6</sub>-alkylamino or di-(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino,

R<sup>15</sup> represents hydroxyl, mercapto, amino, C<sub>1</sub>-C<sub>7</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-alkenyloxy, C<sub>1</sub>-C<sub>6</sub>-alkenyloxy, C<sub>1</sub>-C<sub>6</sub>-alkylthio, C<sub>1</sub>-C<sub>6</sub>-alkylamino or di-(C<sub>1</sub>-C<sub>4</sub>-alkyl)-amino,

R<sup>16</sup> represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C<sub>1</sub>-C<sub>4</sub>-alkyl,

R<sup>17</sup> represents hydrogen, in each case optionally fluorine-, chlorine- and/or bromine-substituted C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>2</sub>-C<sub>6</sub>-alkenyl or C<sub>2</sub>-C<sub>6</sub>-alkynyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, dioxolanyl-C<sub>1</sub>-C<sub>4</sub>-alkyl, furyl, furyl-C<sub>1</sub>-C<sub>4</sub>-alkyl, thienyl, thiazolyl, piperidinyl, or optionally fluorine-, chlorine- and/or bromine- or C<sub>1</sub>-C<sub>4</sub>-alkyl-substituted phenyl,

R<sup>18</sup> represents hydrogen, in each case optionally fluorine-, chlorine- and/or bromine-substituted C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>2</sub>-C<sub>6</sub>-alkenyl or C<sub>2</sub>-C<sub>6</sub>-alkynyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, dioxolanyl-C<sub>1</sub>-C<sub>4</sub>-alkyl, furyl, furyl-C<sub>1</sub>-C<sub>4</sub>-alkyl, thienyl, thiazolyl, piperidinyl, or

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optionally fluorine-, chlorine- and/or bromine- or C<sub>1</sub>-C<sub>4</sub>-alkyl-substituted phenyl, R<sup>17</sup> and R<sup>18</sup> also together optionally represent C<sub>3</sub>-C<sub>6</sub>-alkanediyl or C<sub>2</sub>-C<sub>5</sub>-oxaalkanediyl, each of which is optionally substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl, phenyl, furyl, a fused benzene ring or by two substituents which, together with the C atom to which they are attached, form a 5- or 6-membered carbocycle,

- R<sup>19</sup> represents hydrogen, cyano, halogen, or represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl or phenyl,
- $R^{20}$  represents hydrogen, optionally hydroxyl-, cyano-, halogen- or  $C_1$ - $C_4$ -alkoxy-substituted  $C_1$ - $C_6$ -alkyl,  $C_3$ - $C_6$ -cycloalkyl or tri- $(C_1$ - $C_4$ -alkyl)silyl,
- 10 R<sup>21</sup> represents hydrogen, cyano, halogen, or represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl or phenyl,
  - X<sup>1</sup> represents nitro, cyano, halogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy,
  - X<sup>2</sup> represents hydrogen, cyano, nitro, halogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy,
  - X<sup>3</sup> represents hydrogen, cyano, nitro, halogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy,

and/or the following compounds, defined by general formulae, of the general formula (IId)

$$O \nearrow N \longrightarrow (X^5)_v \qquad R^{22} \longrightarrow (X^4)_t \qquad (IId)$$

#### or of the general formula (IIe)

$$R^{25} \longrightarrow \begin{pmatrix} (X^5)_v \\ R^{22} \\ SO_2 \end{pmatrix} \longrightarrow \begin{pmatrix} (X^4)_t \\ (IIe) \end{pmatrix}$$

where	w	h	e	r	e
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- t represents the number 0, 1, 2, 3, 4 or 5,
- v represents the number 0, 1, 2, 3, 4 or 5,
- R<sup>22</sup> represents hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl,
- 5 R<sup>23</sup> represents hydrogen or C<sub>1</sub>-C<sub>4</sub>-alkyl,
  - R<sup>24</sup> represents hydrogen, in each case optionally cyano-, halogen- or C<sub>1</sub>-C<sub>4</sub>-alkoxy-substituted C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-alkylthio, C<sub>1</sub>-C<sub>6</sub>-alkylamino or di-(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, or in each case optionally cyano-, halogen- or C<sub>1</sub>-C<sub>4</sub>-alkyl-substituted C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyloxy, C<sub>3</sub>-C<sub>6</sub>-cycloalkylthio or C<sub>3</sub>-C<sub>6</sub>-cycloalkylamino,
  - R<sup>25</sup> represents hydrogen, optionally cyano-, hydroxyl-, halogen- or C<sub>1</sub>-C<sub>4</sub>-alkoxy-substituted C<sub>1</sub>-C<sub>6</sub>-alkyl, in each case optionally cyano- or halogen-substituted C<sub>3</sub>-C<sub>6</sub>-alkenyl or C<sub>3</sub>-C<sub>6</sub>-alkynyl, or optionally cyano-, halogen- or C<sub>1</sub>-C<sub>4</sub>-alkyl-substituted C<sub>3</sub>-C<sub>6</sub>-cycloalkyl,
- 15 R<sup>26</sup> represents hydrogen, optionally cyano-, hydroxyl-, halogen- or C<sub>1</sub>-C<sub>4</sub>-alkoxy-substituted C<sub>1</sub>-C<sub>6</sub>-alkyl, in each case optionally cyano- or halogen-substituted C<sub>3</sub>-C<sub>6</sub>-alkenyl or C<sub>3</sub>-C<sub>6</sub>-alkynyl, optionally cyano-, halogen- or C<sub>1</sub>-C<sub>4</sub>-alkyl-substituted C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, or optionally nitro-, cyano-, halogen-, C<sub>1</sub>-C<sub>4</sub>-alkyl-, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy- or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy-substituted phenyl, or together with R<sup>25</sup> represents in each case optionally C<sub>1</sub>-C<sub>4</sub>-alkyl-substituted C<sub>2</sub>-C<sub>6</sub>-alkanediyl or C<sub>2</sub>-C<sub>5</sub>-oxaalkanediyl,
  - X<sup>4</sup> represents nitro, cyano, carboxyl, carbamoyl, formyl, sulphamoyl, hydroxyl, amino, halogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy, and
  - X<sup>5</sup> represents nitro, cyano, carboxyl, carbamoyl, formyl, sulphamoyl, hydroxyl, amino, halogen, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy.
  - 13. Compositions according to Claim 12, where the crop plant compatibility-improving compound is selected from the following group of compounds:
    - cloquintocet-mexyl, fenchlorazole-ethyl, isoxadifen-ethyl, mefenpyr-diethyl, furilazole, fenclorim, cumyluron, dymron or the compounds

and

- 5 14. Compositions according to Claim 12 or 13 where the crop plant compatibility-improving compound is cloquintocet-mexyl or mefenpyr-diethyl.
  - 15. Method for controlling unwanted vegetation, characterized in that a composition according to Claim 12 is allowed to react on the plants or their habitat.
  - 16. Use of a composition according to Claim 12 for controlling unwanted vegetation.

## 10 17. Compounds of the formula (II)

in which

A, B, X, Y, Z and R<sup>8</sup> are as defined above.

# 18. Compounds of the formula (XVI)

- A, B, X, Y and Z are as defined above.
- 19. 2-Chloro-4-methyl-6-ethylphenylacetic acid, methyl 2-chloro-4-methyl-6-phenylacetate, l'-(2-chloro-4-methyl-6-ethylphenyl)-2',2',2'-trichloroethane and 2-chloro-6-ethyl-4-methylaniline.